

MM DOCKET 99-25
Engineering Study

Summary:

Map 1: Effect of Singletons:

In this map, currently MX'ed Auction 83 applications are not considered. The dark green area is area where LP100 stations could locate on some channel, 221 through 300, if MX'ed Auction 83 applications were gone. The lighter green "halo" surrounding the dark green area is a 4.7 km buffer, 4.7 km being the minimum distance an LP100 station must cover with a 60 dBμ signal according to 47 C.F.R. § 73.811(a)(2). This lighter green area shows the additional minimum area that could be covered by an LP100 stations located in the dark green area. The red area is area where Auction 83 singletons applications, construction permits, and licenses preclude the placement of an LP100 station.

Map 2: Effect of RAM/EB

Prometheus et al, in their Petition to the FCC, singled out two filers in Auction 83 as being particularly culpable in destroying any chance the LPFM service had to expand. This map shows the cumulative effect of all construction permits granted to Radio Assist Ministry, Inc. ("RAM") or to Edgewater Broadcasting, Inc. ("EB") from Auction 83. The dark green area again shows the area where an LP100 stations could currently locate on some channel, 221 through 300. The lighter green "halo" surrounding the dark green area is a 4.7 km buffer, 4.7 km being the minimum distance an LP100 station must cover with a 60 dBμ signal according to 47 C.F.R. § 73.811(a)(2). This lighter green area shows the additional minimum area that could be covered by an LP100 stations located in the dark green area. The red area is area where Auction 83 applications preclude the placement of an LP100 station. The even lighter green color is area where LP100's are precluded from locating due to other factors (e.g. full-power stations, existing LPFM's, other translator stations and applications). As can clearly be seen, despite the claims of Prometheus et al., these two filers have had an extremely negligible effect on the future of the LPFM service.

Note that these two maps are also included with existing LPFM service contours overlaid, in order to demonstrate that not only is there plenty of space and frequency for LPFM to locate in the future, but LPFM is already built and being built all over the country.

Important Notes:

- It is important to note that the dark green area is NOT the only area available to LP100 stations. There are 21 channels, 200 through 220, that were not even considered for this study. Taking those channels into consideration would no doubt open up even more area.
- It is also important to note that this study only considered opportunities for LP100 stations. The restrictions on locating LP10 stations are much more lax than those for LP100. Therefore, it is definitely safe to say that the opportunities for LPFM in general are much broader than this map depicts.
- The dark green area covers practically the entire United States, Alaska and Hawaii included. LPFM advocates/ FM translator detractors would have us believe that there is practically no space left in the entire country for LPFM stations to locate. This is clearly not the case.
- Furthermore, most heavily-populated areas where there is no more opportunity for LP100 is not the result of translators, but rather the result of primary-service FM stations and already-existing LPFM stations.
- The long-term effect of MX'ed Auction 83 applications is impossible to determine at this time since the current number of applications would be expected to be reduced were Auction 83 allowed to proceed to completion and these MX'es allowed to be resolved. A significant number of MX'ed applications would be dropped in order to free up others in exchange for compensation or other applications dropped.

Study Procedure:

- Data Sources:
 - FCC CDBS Files as of August 15, 2005
 - FCC 30-second terrain database
- Method:
 - For this study, a deductive approach was used, rather than an inductive. Other studies of this sort have picked individual sets of coordinates to test. This study started with the entire United States as completely open for every channel (221 thru 300) and removed every area from which an LP100 station was precluded by a specific stations, application, or allotment.
 - For the final resulting map, the final areas for all 80 channels were accumulated together as one solid color. In other words, a green area is an area in which an LP100 station could locate on one or more channel(s).
- Precision:
 - The areas were formed with a precision of 0.000001 degree (0.0036 second)
 - The preclusion areas generated for all stations, allotments, and applications, were generated on 120 radials, interpolated linearly between radials.
 - All distances were calculated in accordance with 47 CFR 73.208(c)
- Scope:
 - The study considered the entire continental United States as well as Alaska and Hawaii. It did not consider Puerto Rico, the Virgin Islands, Guam, American Samoa, or any other outlying US territory.